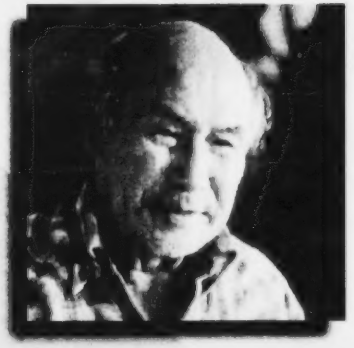
THE EVOLUTION OF SENIORS' **FALLS PREVENTION** IN BRITISH COLUMBIA

BRITISH COLUMBIA
Ministry of Health

Working strategically and collectively to reduce the burden and impact of falls and fall-related injury among seniors



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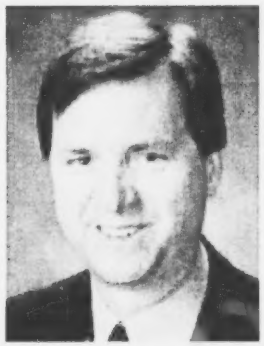


Seniors are our fastest growing population in B.C. It is expected that by 2022, one in five British Columbians will be in this age group. It is therefore critical that we focus attention on prevention measures that help seniors live longer, healthier and more active lives.

Most of those reading this report will know of a senior relative or friend who has fallen. Many seniors who fall experience an injury. This can lead to limitations in their full engagement of life, as most of those who fall, even without being injured, become afraid of falling again. For many B.C. seniors, an injury from a fall will result in disability, chronic pain, loss of independence and a reduced quality of life. Such falls do not just impact the individual senior; they also directly impact the lives of family and friends, and our health system.

In B.C. we are fortunate to have many champions who work tirelessly to reduce falls and the impact of fall-related injuries. Many have been instrumental in bringing falls among seniors to the forefront as a serious public health issue. This report is inspired by them.

The Evolution of Seniors' Falls Prevention in British Columbia recognizes the champions and the key historical milestones that have brought British Columbia to where it is today – a province with a statistically significant downward trend in rates of falls, and a growing capacity for the integration of falls prevention into health and community services for seniors. It highlights the work done by British Columbia's world leaders in the field of falls prevention who have worked collaboratively with policy makers and health care providers to develop a strategic infrastructure that involves all sectors and at all levels. It compliments recent landmark falls prevention reports; showcases the historical milestones that have contributed to policy, research and practice; and presents recent epidemiological data to illustrate the changes over time in seniors' falls mortality and hospitalizations.

B.C. is on the right track to address the burden of falls and fall-related injuries for so many of our seniors. This report celebrates our success to date and outlines future plans so we can continue to build on our prevention measures to keep our seniors safe and healthy.

George Abbott

Honourable George Abbott
Minister of Health

- 1990 – Inter-ministerial Committee on Seniors Issues hosted a B.C. Fall-Related Hospitalizations workshop. This was the first time falls was profiled in B.C. as a serious public health issue.
- 1991-1993 – Falls Intervention Trials (FIT). First Randomized Control Trial on falls in B.C. Head Over Heels video produced.
- 1992 – Ministry of Health formalized it's commitment to reducing injuries by establishing the Office of Injury Prevention.
- 1997 – Office of Injury Prevention and Deputy Provincial Health Officer created the BC Injury Research & Prevention Unit (BCIRPU).
- 1998 – Formation of Adult Injury Management Network (AIMNet BC) and B.C. Summit on Falls Prevention – Hosted by AIMNet BC.
- 2001 – Office of Injury Prevention and Office for Seniors jointly created Senior Advisor on Falls and Injury Prevention position (Dr. Vicky Scott).
- 15 years of research conducted at University of British Columbia, Simon Fraser University and University of Victoria.
- Health Authorities work in partnership with BCIRPU to develop strategic plans for falls prevention and appoint Regional Falls Prevention Managers.
- Within the past four years, a nine-fold increase throughout the province in programs designed to reduce falls and injuries among seniors.
- 2005 – Formation of the BC Falls Prevention Coalition.

- In B.C. during 2004, 852 seniors died either directly or indirectly as a result of having a fall and 10,091 were hospitalized.
- It is estimated that over 200,000 British Columbian will have a fall this year.
- Indirect death rates due to falls exceed direct fall-related death rates for all seniors, but are highest among those aged 85 years and over.
- Death rates either directly or indirectly due to falls for both senior men and women have significantly decreased since 1990.
- During 2004, 517 senior women died directly or indirectly from a fall compared to 335 men.
- Over the past decade, the rate of hospitalization due to fall-related injuries among seniors has significantly declined. However, the number of hospital cases are on the increase partly due to B.C.'s rapidly aging population.
- The average length of hospital stay as a result of a fall-related injury has significantly declined over the last 10 years.
- Over the past four years, 42.5 percent of all fall-related injuries among seniors treated in hospital were as a result of a fracture to the hip.

- It is estimated that the average hospital cost of each hip fracture caused by a senior falling is $18,508, and the annual average cost is $75 million for all senior hip fracture hospitalization cases in B.C.
- The total estimated costs due to fall-related injury hospitalizations among seniors in 2004/2005 was $151 million.
- Over the past five years, the estimated annual hospital cost of fall-related injuries among seniors has reduced by $24 million (13.7 percent).

INTRODUCTION

Purpose of Report

Over the past 20 years there has been sustained collaboration within British Columbia (B.C.) to address falls and fall-related injuries among seniors. These sustained efforts and the drive of specific champions within our government, health system, academia and our local communities, have led us to where we are today – a province with significantly reducing rates for falls. This reduction is due to the work of recognized leaders in the field of falls prevention and a strategic infrastructure that demonstrates collaboration across all sectors and at all levels. The Province has provided a pivotal leadership role with its Federal and Health Authority partners to establish a partnership that is helping to reduce falls and fall-related injuries in B.C.

This report will:

- Present recent B.C. epidemiological data to illustrate the changes over time for mortality and hospitalizations as a result of seniors falling.
- Showcase the historical milestones for policy, research and practice that have contributed to B.C. moving to achieve a shared vision of reducing the burden and impact of falls and fall-related injury among seniors.

This document is intended to supplement several recent landmark reports that have provided excellent in-depth analysis into falls and fall-related injuries, namely:

- The Provincial Health Officer's 2004 special report Prevention of Falls and Injuries Among the Elderly (referred to throughout this report as the 2004 PHO Falls Report);[1]
- The BC Injury Research & Prevention Unit's 2005 Environmental Scan: Seniors and Veterans Falls Prevention Initiatives in British Columbia;[2] and
- The Public Health Agency of Canada's 2005 Report on Seniors' Falls in Canada.[3]

Together, these publications will provide the reader with a comprehensive understanding of the falls prevention infrastructure and practice within B.C. and across Canada. Additionally, there have been many more publications and initiatives that have influenced our knowledge and practice for implementation of evidence-based falls prevention, as documented in the historical section of this report.

Strategic Context

The issue of falls and injury prevention among seniors is imbedded within a larger strategic context for seniors' health promotion and injury prevention across all age groups. The Ministry of Health has a vision of a modern health system that supports British Columbians across their life span, whether they need support to stay healthy, get better from an illness or injury, live with and manage a chronic disease or disability, or cope with the end of life.[5] Strategic investments in these vital areas have resulted in our health system being able to respond to the population's health needs in an efficient and effective manner, regardless of changes in demographics and related emerging health priorities.

On March 19, 2005, the Government of British Columbia officially launched ActNow BC, a cross-ministry, partnership-based, community-focused health promotion platform that will help all British Columbians achieve a healthier life.[6] During 2006, the Ministry of Health is conducting provincial consultation for the development of a B.C. Healthy Aging Framework. As part of the process, the reduction of falls and fall-related injuries has been identified as a priority for seniors to achieve healthy aging. The development of the B.C. Healthy Aging Framework will be integrated within ActNow BC.

The Ministry of Health has identified injuries as a leading cause of death and hospitalization within B.C.[5] In order to provide a clear direction to address the societal and economic costs of injuries, the Ministry of Health is developing a discussion paper on the future directions for injury prevention within the province. The paper is being coordinated by the BC Injury Research and Prevention Unit (BCIRPU) and developed in consultation with the BC Injury Prevention Leadership Network (BCIPLN). The BCIRPU and the BCIPLN are described in Chapter 3. The objective of the discussion paper is to provide a platform for consultation on the development of a B.C. Injury Prevention Framework. This will involve wide stakeholder consultation, the development of injury prevention plans within the Health Authorities, and alignment with key provincial injury prevention strategies.

SCOPE OF THE **CHALLENGE**

There is a sense of urgency to have a positive impact on reducing falls among seniors. The population of B.C. is rapidly getting older. Between 1995 and 2005, the number of seniors increased from 475,315 to 588,118 – an increase of 23.7 percent. In 2005, seniors represented 13.9 percent of the British Columbian population. Within 16 years (year 2022), one in every five people living in B.C. will be 65 years or older. From 2005 to 2031, the number of seniors within B.C. is estimated to increase by 221.5 percent to 1,302,750, and at which point will represent 23.5 percent of the total B.C. population.[7]

Population pyramids show both size and age distribution of the population, highlighting the "population bulge" (Baby Boomers) – the age of the greatest number of residents. B.C.'s population pyramids comparing 1971 with 2004, and 2004 with 2031 *(Figure 1)* show the population steadily increasing. In 2011, the first wave of the baby boomers will reach 65 years of age.

The rate of aging of the British Columbian population will affect each region at a different time. From 2005 – 2029, one in five people will be 65 years or over in the various Health Authorities as follows:

- Vancouver Island Health Authority by 2015
- Interior Health Authority by 2016
- Vancouver Coastal Health Authority by 2025
- Fraser Health Authority by 2026
- Northern Health Authority by 2029.[7]

Among those aged 65 years and older, the proportion of older seniors (those aged 85 years or older) relative to the

Figure 1. *British Columbia Population Pyramids for Years 1971, 2004 and 2031*

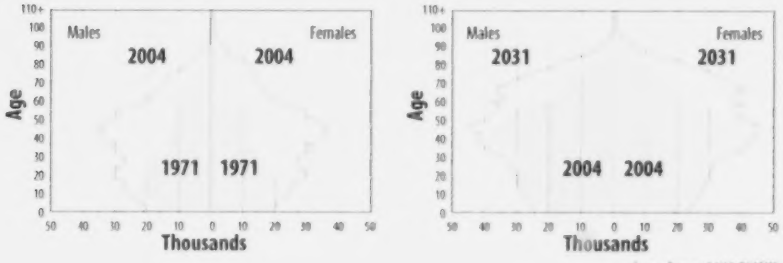
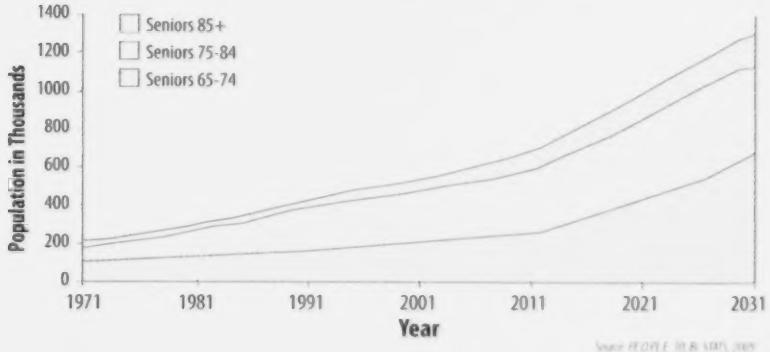


Figure 2. *Trends by Age Groups for Seniors, aged 65 and Over, B.C., 1971 to 2031*



total number of seniors has been increasing faster than the proportion of younger seniors and this trend is expected to continue until the Baby Boomers become seniors *(Figure 2)*. This is of great interest as it is this age group that has the highest incidence of falls.[1]

By the year 2010, it is projected that in B.C. 16 percent of all women will be 65 or over. As well, the proportion of women in the oldest categories is expected to increase rapidly in the next few years partly because, on average, women live longer than men. Today it is estimated that there are about 121 women for every 100 men over the age of 65 in B.C., and 197 women for every 100 men aged 85 and over.[7] Again this is important since women in their 80s experience falls much more often than men of a similar age.

The aging population and the health implications that accompany this will affect each region differently. Consequently, local falls prevention policies and specific interventions need to be developed to cater to the needs of local populations and communities.

Figure 3. *Injury Pyramid (adapted from 2004 PHO Falls Report).*[1]

The information in this report regarding the impact, number and severity of falls is derived from mortality and hospitalization data. As with all injuries, this information does not reflect the full extent of the problem of falls. The distribution of injury mortality and morbidity has often been characterized as an "injury pyramid". In an injury pyramid, the number of injury deaths represents the smallest proportion of cases or the capstone or the "tip of the iceberg". Greater and increasing proportions of the pyramid are thought to be self-care and no treatment modalities. It is often implied that these latter injuries and treatment modalities are the most numerous and form the foundation of any injury pyramid.[10] In B.C. during 2004, 852 seniors died either directly or indirectly as a result of having a fall and 10,091 were hospitalized. However, data on fall injuries are not readily available from the other sources, such as the emergency department or doctors' offices.

Significance of the Issue of Falls among Seniors in British Columbia

Among B.C. seniors, unintentional injuries are a major public health problem involving heavy costs to the health care system as well as serious consequences to the seniors themselves. For example, many injuries result in long-term disability, serious decline in function, chronic pain, institutionalization, and in some instances death. Falls cause more than 90 percent of all hip fractures among seniors and 20 percent of seniors who suffer a hip fracture die within a year.[1] It is estimated that the average hospital cost of a hip fracture that is the result of a senior falling is $18,508 and the annual average hospital costs* for all senior hip fracture hospitalization cases in B.C. is over $75 million.

Hospital Costs within this report refer to Acute and Rehabilitation hospital cases. Refer to Appendix 1 for further details.

The 2004 PHO Falls Report provided a comprehensive overview of the impact and seriousness of this issue in B.C.[1] The report noted that one in three persons over the age of 65 is likely to fall at least once each year. When translating this statistic to the 2006 projected B.C. senior population, it is estimated that 201,163 British Columbians over the age of 65 are likely to fall this year. This is worrisome when one considers that almost half of those who fall experience a minor injury and between five to 25 percent suffer from a more serious injury, such as a fracture or a sprain.[1] Moreover, recent epidemiological data in B.C. shows that 10,091 seniors were hospitalized and 852 died in 2004, as a result of falls. Data also tells us that the absolute number of seniors admitted to hospital due to fall-related injuries increased from about 8,700 in 1992/1993[1] to 10,091 in 2004/2005, an increase of approximately 16 percent. Interestingly, most of the increase in fall-related hospitalization in the past decade was accounted for by people aged 85 and over, and this number is likely to continue increasing considering B.C.'s projected aging population distribution.[1] The impact of falls in this age group is a public health concern of proportions that will only intensify as our population ages. When compared to other age groups, falls among seniors are more likely to result in serious fractures and longer periods of recovery, which lead to longer use of health care resources. In particular, the average length of hospital stay is almost 50 percent longer for falls when compared to all other causes of hospitalization for people over the age of 65.

One of B.C.'s current priorities is to provide timely access to quality care and reduce wait times for individuals in need. The fact that seniors' average length of hospital stay due to falls is so much longer than all other causes of hospitalization provides a good basis for developing preventive intervention for falls.

Recent British Columbia Fall-Related Mortality and Hospitalization Epidemiological Data

The following epidemiological data of fall-related deaths and hospitalizations in B.C. were prepared by the Business Operations and Surveillance Branch within the Ministry of Health. The data represents analyses of data from BC Vital Statistics Agency and the hospital Discharge Abstract Database of the Canadian Institute for Health Information.

The data presented are an update on the previously published data within the 2004 PHO Falls Report. Only acute and rehabilitation hospital cases are included in the data. Alternate Level of Care* (ALC) days have been excluded as this data is collected at a point where a patient is no longer receiving acute care services but is waiting placement in alternate care facilities.

The following data can be used to compare past trends and patterns for fall-related injuries and identify future areas of priority for falls prevention investment and interventions.

B.C. data show that over the last decade there has been a highly significant reduction ($p<0.001$) in the rate of deaths from falls among seniors. The data also illustrate a significant decrease in the rates for direct and indirect deaths due to falls for men and women from 1990 to 2004. Correspondingly, hospitalization rates as a result of falls among seniors have significantly decreased for all those aged 65 and over and for each of the age groups – 65-74, 75-84 and 85+ years. Significant decreasing rates are a considerable achievement for B.C. and a testament to the dedicated focused work of falls prevention staff within our health system and communities.

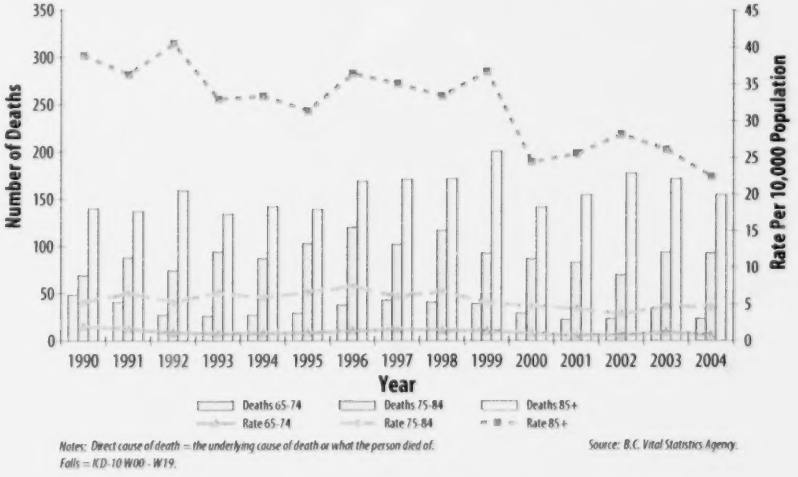
** Alternate Level of Care (ALC) – refers to the portion of the acute care stay during which the patient is no longer receiving acute care services but is waiting placement in alternate care facilities such as extended care unit, nursing home or home care program.*

Seniors' Deaths from Falls in British Columbia

In 2004 alone, 852 British Columbian seniors died either directly or indirectly from a fall.

According to the 2004 PHO Falls Report, within B.C., deaths due to falls increased during the period 1991 to 2001 in absolute numbers of seniors.[1] *Figure 4* shows that over time there have consistently been a higher number of deaths from falls among the older age groups, particularly for those over 85 years. In 2004, there were 23 deaths directly attributed to a fall injury for those aged 65-74 years, 93 deaths for those aged 75-84 years and 155 deaths for those aged over 85 years. However, 2002 to 2004 data *(Figure 4)*, suggests a downward trend in absolute numbers of direct deaths as a result of a fall-related injury for those aged 85 years and over. The data in *Figure 5* provides the provincial (age-standard-

Figure 4. *Deaths Directly Due to Falls Among Seniors, Cases and Rates, B.C., 1990 to 2004*



Notes: Direct cause of death = the underlying cause of death or what the person died of. Falls = ICD-10 W00 - W19.

Source: B.C. Vital Statistics Agency.

Figure 5. *Direct Death Rates Due to Falls Among Seniors, by Age Group, B.C., 2000 to 2004*

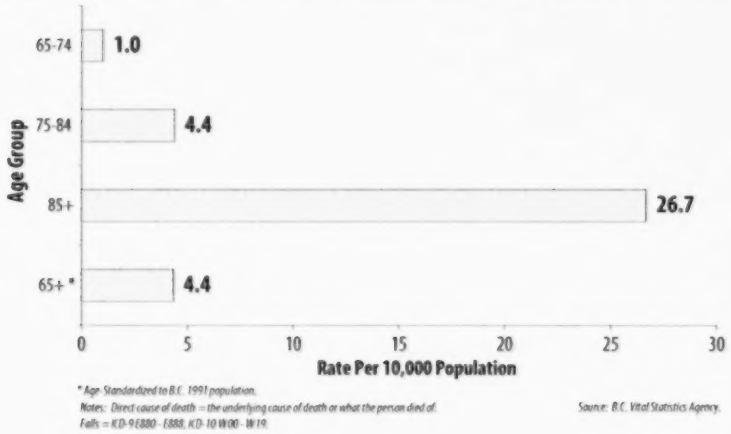
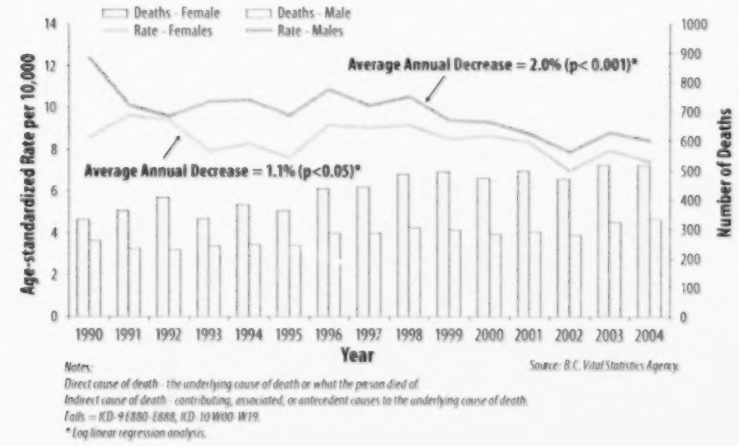


Figure 6. *Direct and Indirect Deaths Due to Falls Among Seniors, by Gender, B.C., 1990 to 2004*



ized) death rate due directly to a fall-related injury. The provincial rate is 4.4 deaths per 10,000 standard population for the period 2000 to 2004. This is a striking 12 percent decline from the provincial rate reported for the period 1997 to 2001 as five deaths per 10,000 standard population.[2] Health Authority specific direct death rates as a result of a fall-related injury among seniors is reported in *Figure 13*. As the data in *Figure 5* show, the rate of direct deaths for the 85 and over age group is more than six times higher than that for the rate of all seniors. However, the rate of death among those 85 and over has been statistically significantly declining consistently since 1990 *(Figure 4)*.

According to the 2004 PHO Falls Report, indirect death rates (where a fall contributed to the cause of death) exceed direct deaths in all senior age groups, although indirect causes are greatest among those age 85 years and older.[1]

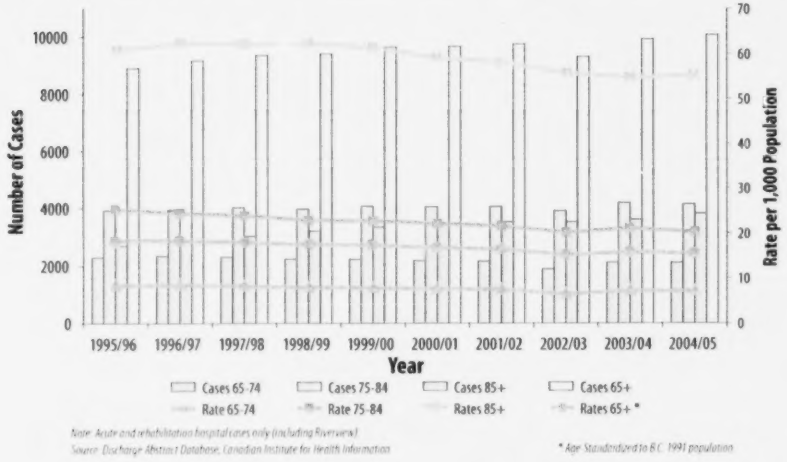
Figure 6 shows that in absolute numbers, more women than men over the age of 65 died either directly or indirectly from falls, most likely because women outnumber men in this age group. In 2004, 517 senior women died directly or indirectly from a fall compared to 335 men. However, when considering death rates, the rate for men has been higher over the past 14 years than for women. The good news is that

the death rate for senior men is decreasingly at a highly statistically significant rate with an annual average decrease of 2 percent ($p<0.001$). Additionally, the death rate for women is also decreasing at a statistically significant rate with an annual average decrease of 1.1 percent ($p<0.05$).

Figure 7 shows that falls were either the primary cause or a secondary contributing cause for 10,091 hospital cases in 2004/2005 across all three age groups of seniors. The number of cases has been steadily increasing over the past decade – from 8,914 cases recorded in 1995/1996 – and this is accredited to the increasing numbers of seniors in the B.C. population.

The (age-standardized) rate of hospital cases per 1,000 standard population over the age 65 showed a small but highly statistically significant ($p<0.001$) decline over the past decade (18.3 down to 15.5 cases per 1,000 standard population). This decline of the rate of hospital cases from falls, is also highly statistically significant ($p<0.001$) in all three senior age groups. The 2004 PHO Falls Report stated that it is unclear whether this decline indicates fewer fall-related injuries or an indication of a change in hospital management, such as increased tendency wherever possible to treat and release elderly people in the emergency department and to support them at home. Alternatively, these changes may reflect the effect of improved fall prevention strategies in B.C. combined with an increase in outpatient services.[1]

Figure 7. *Fall-Related Hospital Cases and Rates Among Seniors, B.C., 1995/1996 to 2004/2005*



Note: Acute and rehabilitation hospital cases only (including Riverview).
Source: Discharge Abstract Database, Canadian Institute for Health Information
* Age Standardized to B.C. 1991 population

Figure 8. *Average Length of Hospital Stay Due to a Fall-Related Injury, by Age Groups 65-74, 75-84, 85+ Years, B.C., 1995/1996 to 2004/2005*

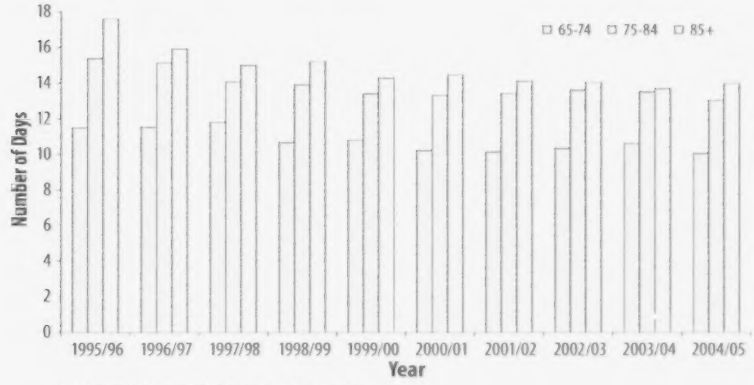


Figure 9. *Average Length of Hospital Stay, All Causes and Fall-Related Hospitalizations, by Age Groups 65-74, 75-84, 85+, B.C., 2004/2005*

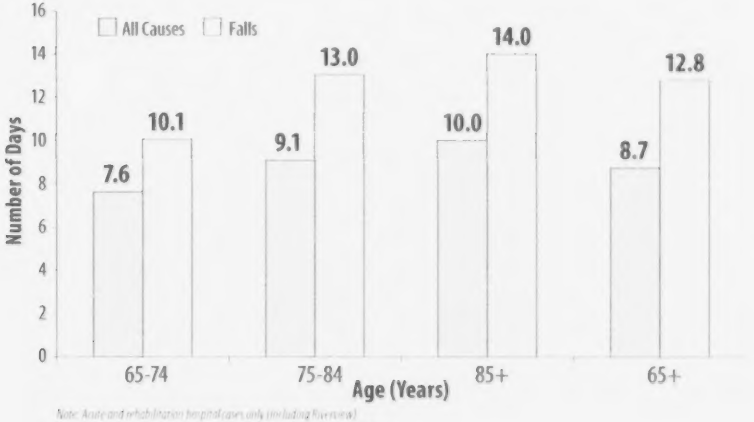


Figure 8 illustrates that the older the senior, the longer they are likely to remain in hospital after sustaining a fall-related injury. As reported in the 2004 PHO Falls Report, the average length of stay for a senior who had fallen has declined significantly ($p<0.001$) over the past decade.[1] The data in the 2004 PHO Falls Report covered the period from 1992/1993 to 2000/2001, however, with more recent data up to 2004/2005 it can be observed that the average length of stay is beginning to stabilize.

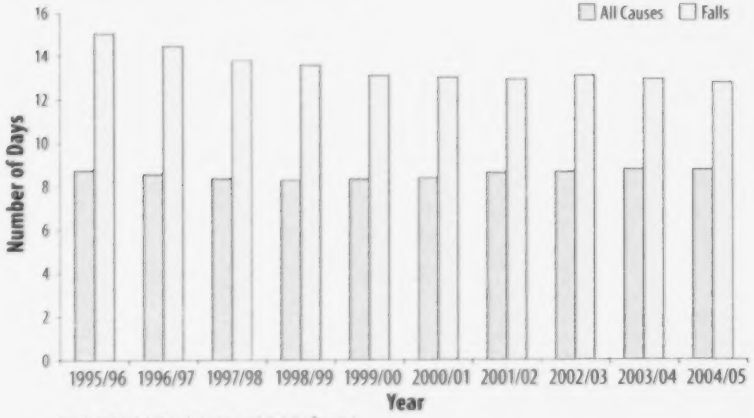
Figure 9 shows that in 2004/2005 the average length of hospital stay for a senior due to a fall-related hospitalization was 12.8 days compared to 8.7 days for all causes of hospitalization. Compared to all cause hospitalization, lengths of stay for fall-related injuries are longer among all age groups, with those aged 65-74 years staying an average 10.1 days, those 75-84 years staying an average 13.0 days and those 85 years and over staying an average 14.0 days.

Figure 10 shows different trends for average length of hospital stay for seniors as a result of all causes and fall-related hospitalizations. Over the past four years, the previous declining trends (as reported in the 2004 PHO Falls Report)[1] for all causes and fall-related hospitalizations seem to have

leveled off. However, this trend is highly statistically significant from 1995/1996 to 2004/2005 ($p<0.001$). In the all causes hospitalization data, there seems to be a slight rise in the length of stay over the last five years. The average length of stay for seniors who have fallen is still longer than for all causes, however, the difference has reduced dramatically from over 10 days in 1992/1993[1] to four days in 2004/2005.

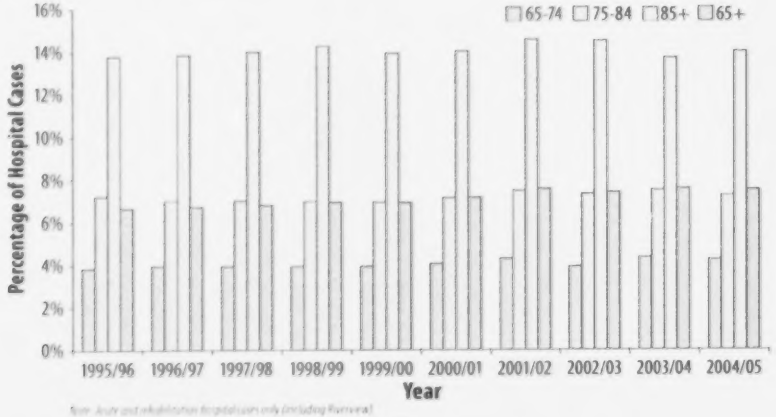
Figure 11 shows that over the past decade, falls have remained a consistent cause of hospitalization for seniors in relation to all causes of hospitalization. In 2004/2005, for those aged 85 years and older, falls comprised 14.0 percent of all hospitalizations. In the same year, falls comprised 4.3 percent for those aged 65-74 years and 7.3 percent for those aged 75-84 years of all hospitalizations.

Figure 10. *Average Length of Hospital Stay, All Causes and Fall-Related Hospitalizations Among Seniors, B.C., 1995/1996 to 2004/2005*



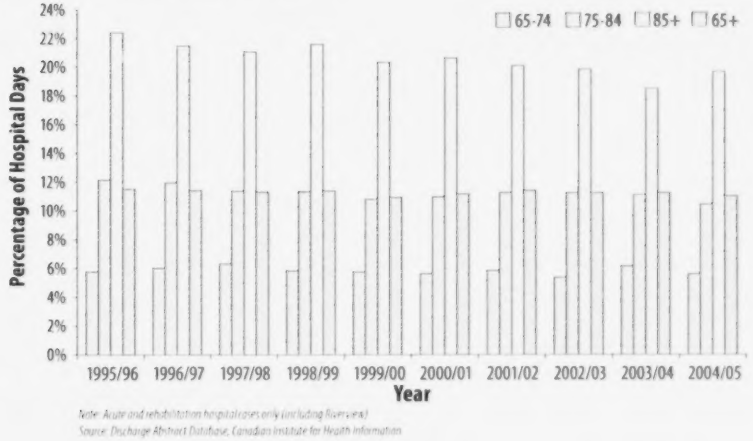
Note: Acute and rehabilitation hospital cases only (including Purview)
Source: Discharge Abstract Database, Canadian Institute for Health Information

Figure 11. *Percentage of Hospital Cases Due to Fall-Related Injuries, by Age Groups 65+, 65-74, 75-84, 85+, B.C., 1995/1996 to 2004/2005*



Note: Acute and rehabilitation hospital cases only (including Purview)
Source: Discharge Abstract Database, Canadian Institute for Health Information

Figure 12. *Percentage of Hospital Days Due to Fall-Related Injuries, by Age Groups 65+, 65-74, 75-84, 85+, B.C., 1995/1996 to 2004/2005*



Note: Acute and rehabilitation hospital cases only (including Riverview)
Source: Discharge Abstract Database, Canadian Institute for Health Information

Table 1. *Number and Percentage of Selected Hospital Cases Associated With Fall-Related Injuries Among Seniors, B.C., 2001/2002 to 2004/2005*

Injury	ICD 10 Codes	Number of Hospital Cases	Percentage of all Fall-related Hospital Cases
Hip Fracture	S72.0-S72.2	16,264	42.5 %
Upper Limb Injuries	S40-S49, S50-S59	4,877	12.8 %
Head Injuries	S00-S09	4,110	10.8 %
Abdomen, Lower Back, Lumber Spine and Pelvis Injuries	S30-S39	3,929	10.3 %

Note: Acute and rehabilitation hospital cases only (including Riverview)
Source: Discharge Abstract Database, Canadian Institute for Health Information

Figure 12 illustrates that from 1995/1996 to 2004/2005, the percentage of hospital days due to fall-related injuries among seniors was approximately 11.5 percent. Over the same period, for those aged 85 years and over, there is a highly statistically significant ($p<0.001$) downward trend in the percentage of hospital days due to fall-related injuries. The downward trend is also statistically significant ($p<0.005$) for those aged 75-84 years. In 2004/2005, falls accounted for 7.5 percent of all hospital cases for seniors *(Figure 11)*, however data shown in *Figure 12* illustrates that in the same year falls accounted for 11.0 percent of hospital days for seniors compared to all other causes. This is further highlighted when considering seniors 85 years and older. In this age group, fall-related injuries in 2004/2005 accounted for 14.0 percent of all hospital cases and 19.6 percent of hospital days compared to all other causes.

Table 1 shows data on selected fall-related injuries as coded using ICD10. The 2004 PHO Falls Report used ICD9 coded data up until 2000/2001*. Over the four-year period between 2001/2002 and 2004/2005, 42.5 percent of all fall-related injuries among seniors treated in hospital were the result of a fracture to the hip (16,264 cases). Other fall-related injuries of note were injuries to upper limbs (12.8 percent); to the head (10.8 percent); and to abdomen, lower back, lumber spine and pelvis (10.3 percent).

** Revisions to codes in the International Classification of Diseases (changes from ICD 9 to ICD 10) has greatly affected the coding of data in hospitals throughout Canada and especially affected data on falls injuries.[3] Therefore, care must be taken in comparisons of data based on the two different classifications. The ICD 10 classification for hospitalization data was introduced in B.C. in 2001.*

The data in this section shows interesting differences between death rates, number of hospital cases and number of hospital days in each Health Authority and their Health Services Delivery Areas (HSDA). *Figure 13* shows the rate of deaths directly due to falls for seniors per 10,000 standard population. The data shows that Interior, Vancouver Island and Northern Health Authorities have higher rates than the provincial rate of 4.4 deaths per 10,000 standard population. Fraser and Vancouver Coastal Health Authorities have rates that are lower than the provincial rate. This pattern is consistent with the data presented in the 2005 Environmental Scan: Seniors and Veterans Falls Prevention Initiatives in British Columbia,[2] for the years 1997-2001. However, the death rates for each Health Authority presented in Figure 13 have declined since the 1997-2001 rates; most markedly for Interior (declined by 0.8), Vancouver Coastal (declined by 1.1) and Vancouver Island (declined by 0.9) Health Authorities.

Data in *Figures 14* and *15*, present rates of hospital cases and days among seniors by Health Authority and HSDA. This data has not been age-standardized and caution should be taken when comparing between regions. However, the data in these figures can be compared to that presented in the 2004 PHO Falls Report.[1] *Figure 14* shows that there is great variability across the Health Authorities for fall-related hospital cases. Each Health Authority has at least one HSDA higher and one lower than the provincial average of 17.5 fall-related hospital cases per 1,000 senior population. However, only Fraser (16.8 per 1,000) and Vancouver Coastal (16.9 per 1,000) Health Authorities have lower rates for fall-related hospital cases than the B.C. average.

Figure 13. *Deaths Directly Due to Falls Among Seniors, by Health Authority, B.C., 2000-2004*

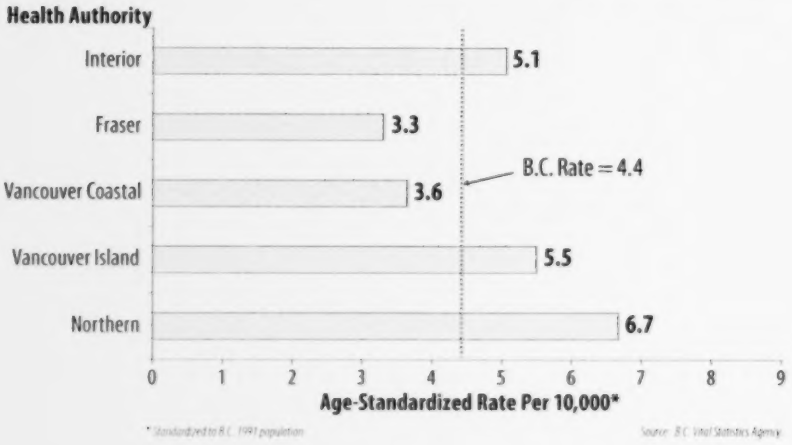
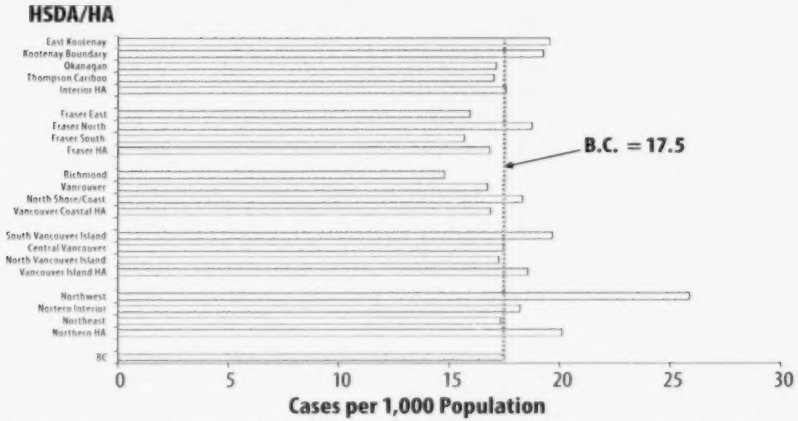


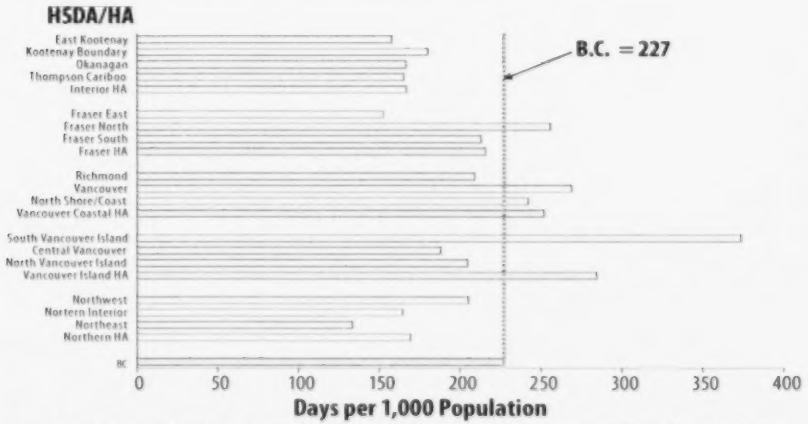
Figure 15 shows that the rate of hospital days used for falls is higher than the provincial average of 227 days per 1,000 population for Vancouver Coastal HA (252 days per 1,000 population) and Vancouver Island HA (285 days per 1,000 population). Fraser Health (216 days per 1,000), Interior (167 days per 1,000 population) and Northern (169 days per 1,000 population) Health Authorities have rates lower than the B.C. average rate. The Northern Health Authority rate has reduced dramatically to that reported in the 2004 PHO Falls Report (265 days per 1,000 population),[1] a reduction of almost 100 days per 1,000

Figure 14. *Fall-Related Hospital Cases Among Seniors, by Health Authority (HA) and Health Services Delivery Area (HSDA), B.C., 2001/2002 to 2004/2005*



Note: Acute and rehabilitation hospital cases only (including Riverview). Source: Discharge Abstract Database, Canadian Institute for Health Information

Figure 15. *Fall-Related Hospital Days Among Seniors, by Health Authority (HA) And Health Services Delivery Area (HSDA), B.C., 2001/2002 to 2004/2005*



Note: Acute and rehabilitation hospital cases only (including Riverview). Source: Discharge Abstract Database, Canadian Institute for Health Information

population. Among HSDAs, South Vancouver Island HSDA has the highest rate at 374 days per 1,000 population.

Note: Health Authority staff requiring more in depth injury-related data for their region can direct their requests to the BC Injury Research and Prevention Unit (BCIRPU). Other sources of information for regional patterns and trends include the BCIRPU reports *Unintentional Fall-Related Injuries and Deaths Among Seniors in British Columbia: Trends, Patterns and Future Projections 1987-2012*[11] and the *Environmental Scan: Seniors and Veterans Falls Prevention Initiatives in British Columbia*[2] available at the BCIRPU's website **www.injuryresearch.bc.ca**

Estimated Hospital Costs due to Fall-Related Injuries Among Seniors in British Columbia

The following hospital cost data due to fall-related hospitalizations among seniors in B.C., has been prepared by the Business Operations and Surveillance Branch within the Ministry of Health. The data represents analyses of the Discharge Abstract Database (DAD) of the Canadian Institute for Health Information (CIHI). Cost per Weighted Case (CWC) (see *Appendix 1*) provided by the Knowledge, Management and Technology Division of the Ministry of Health have been applied to the DAD RIW* data provided by CIHI to estimate hospital costs. *Appendix 1* provides the parameters to the methodology used.

Table 2 shows that it costs on average $18,508 for each hospitalization due to a hip fracture injury for a senior as a result of a fall. The average annual hospital costs for all hip fractures among seniors as a result of a fall was $75,253,165. As illustrated in *Table 2*, the average annual hospital costs of hip fractures among seniors, far outweigh hospital costs of other major types of injuries — not only each injury case but for annual costs also.

$151 million was the total estimated hospital costs due to fall-related injury hospitalizations among seniors in 2004/2005. As illustrated in *Figure 16*, the estimated costs due to fall-related hospitalization injuries among seniors, far outweigh those aged under 65 years ($48 million).

In order to compare estimated hospital costs across multiple years, the 2004/2005 CWC was applied to all years shown in *Figure 16* to allow for consistent comparison over time. Since 2000/2001, there seems to be a downward trend in estimated costs of hospitalized fall-related injuries among seniors.

The 2004/2005 estimated hospital costs of fall-related injuries among seniors has reduced by $24 million (13.7 percent) from the 2000/2001 estimated cost of $175 million.

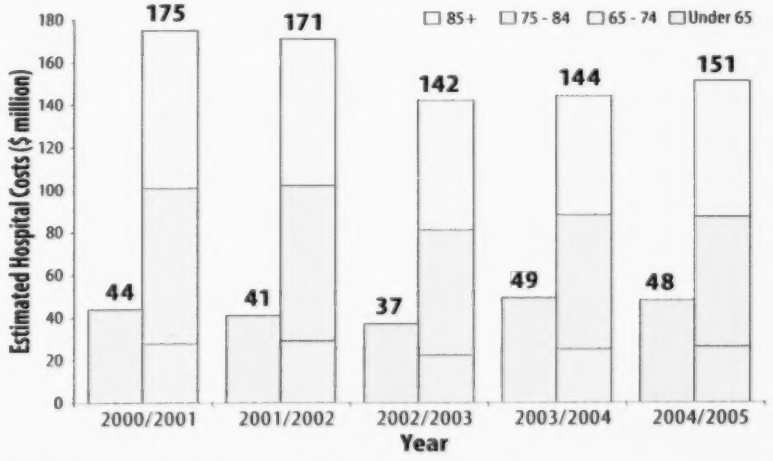
**The Resource Intensity Weights (RIW) system is a relative resource allocation methodology for estimating a hospital's inpatient-specific costs for both acute and day procedure care. RIW is used to standardize the expression of hospital case volumes, recognizing that not all patients require the same health care resources. Volume is then expressed as "weighted cases".*

Table 2. *Hospital Costs for Selected Fall-Related Injuries Among Seniors, B.C., 2001/2002 to 2004/2005*

Injury	ICD 10 Codes	Average Hospital Cost per Injury Case	Average Annual Hospital Cost For All Cases
Hip Fracture	S72.0-S72.2	$18,508	$75,253,165
Upper Limb Injuries	S40-S49, S50-S59	$11,571	$14,107,527
Head Injuries	S00-S09	$14,425	$14,821,189
Abdomen, Lower Back, Lumber Spine and Pelvis Injuries	S30-S39	$14,135	$13,883,954

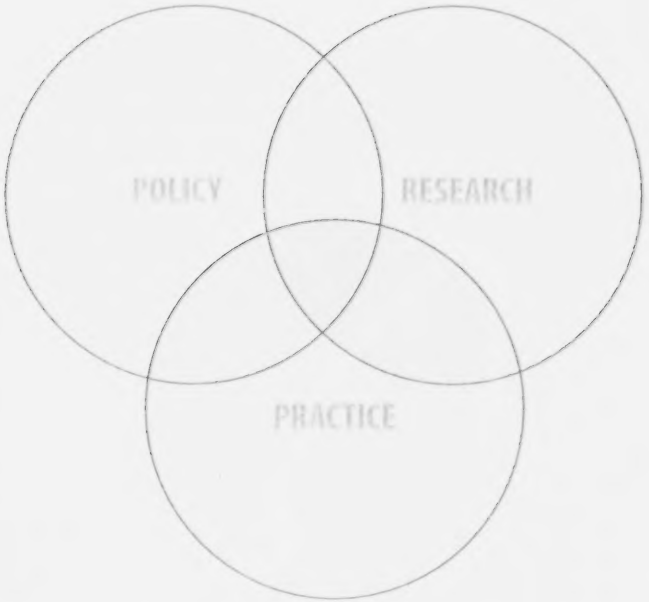
Note: Acute and rehabilitation hospital cases only (including Riverview). Source: Discharge Abstract Database, Canadian Institute for Health Information

Figure 16. *Costs Due to Fall-Related Injury Hospitalizations, by Age Groups Under 65, 65-74, 75-84, 85+, B.C., 2000/2001 to 2004/2005.*



Note: Acute and rehabilitation hospital cases only (including Riverview).
Source: Discharge Abstract Database, Canadian Institute for Health Information, and Knowledge Management and Technology Division, Ministry of Health, 2006

THE PAST, PRESENT AND FUTURE OF **FALLS PREVENTION** IN BRITISH COLUMBIA



Over the past 20 years there has been sustained collaboration within B.C. to address falls and fall-related injuries among seniors. These sustained efforts and the drive of specific champions within government, the health system, academia and local communities, have led to us to where we are today – a province with significantly reducing rates for falls, recognized leaders in the field of falls prevention, and a strategic infrastructure that demonstrates collaboration across all sectors and at all levels.

The timeline starting below provides an overview of the key historical events that have taken place since 1986, at the Federal and Provincial levels, as well as highlights of key research undertaken at B.C.'s universities. This is NOT intended to be a complete scan of all initiatives and programs in the province as that information is available in the 2005 Environmental Scan report.[2] What follows is a brief narrative account of the key highlights of the policy, research and practice efforts, with particular emphasis on those

1986 Policy

Ottawa Charter for Health Promotion[14]

Shifted thinking in what determines health. Areas for action are supportive of all aspects of policy development for prevention of falls among seniors.

1989-1990 Policy

Inter-ministerial Committee on Seniors Issues (IMCSI).

BC fall-related hospitalizations workshop. First time falls was profiled in B.C. as a serious public health issue.

1991-1993 Research

Fall Intervention Trial (FIT) [12]

Head Over Heels Video[13]

First Randomized Control Trial on falls in B.C. Head Over Heels video which is still in demand.

1991 Policy

British Columbia Royal Commission on Health Care and Costs[15]

Supported policy makers to be cognizant of the impact of health determinants and to be better situated to enact policies that address contributing factors rather than just treating injuries.

1992 Practice

Office of Injury Prevention (OIP) formed

Ministry of Health formalized it's commitment for reducing injuries by establishing the OIP.

spearheaded by the Ministry of Health, solely or in partnership with the BC Injury Research and Prevention Unit (BCIRPU).

It is important to recognize that a solid campaign to make a difference to an issue as complex as falls among seniors requires a number of critical features. Laying the groundwork for B.C.'s success required first and foremost a group of champions positioned to support and influence the issue. Notably within government, the contributions of Dr. Bob Fisk, Tessa Graham, Geri Hinton, Dr. Perry Kendall, Dr. Shaun Peck and Bryon Taylor, have strongly contributed to the evolution of policy concerning this issue. Within B.C. academics of note include Dr. Elaine Gallagher, Dr. Vicky Scott, Dr. Karim Khan and Dr. Stephen Robinovitch. Dr. Vicky Scott has also been a major champion influencing all levels of policy, research and practice in her role since 2001 as Senior Advisor on Falls and Injury Prevention to the Ministry of Health. It is also important to recognize the continued interest and support of Lillian Baaske of the Public Health Agency of Canada (PHAC) and the support from the Division of Aging and Seniors (formerly with Health Canada and now with PHAC), and more recently from the Population Health Fund of PHAC. Many of the initiatives undertaken in B.C. were made possible because of funding and support from the Federal government, including funding support for the compilation of this report.

It is also important to note that many of these efforts were enhanced and influenced by

1994–1997 Research/Practice

STEPS-Seniors and Persons with Disabilities Task Force for Environments which Promote Safety[16]

Stepping Out: Preventing Falls in the Community Video[17]

First published study on the epidemiology of falls in public places.

1995 Practice

Minister of Health's Advisory Committee on Injury Prevention established

Deputy Provincial Health Officer was appointed Chair of Committee.

1995 Policy

Falls and the Elderly – Community Paper Series[18] An overview of research on factors contributing to falls among seniors.

1996 Policy

Taking Steps: A safety manual for planning, building, and maintaining public places[19]

Based on learning from the STEPS project, this document is a resource for local governments and public works departments.

1997 Research

Mortality and Morbidity Related to Injuries from Falls in British Columbia[20]

An epidemiological overview of falls among seniors in B.C.

2004 PHO Falls Report cover.

key national policy frameworks and campaigns. The timing of the various position papers and initiatives was critical, as there was a sense of readiness to form new partnerships and collaborative efforts to address this major social issue. There was also a philosophical shift away from a disease model of health to one that encompasses biological, environmental, social and behavioural factors. This model has served well as a framework for understanding and preventing falls and fall-related injuries among seniors.

As shown in the timeline, efforts to identify falls among seniors as a problem in B.C. commenced with an Inter-ministerial Committee on Seniors Issues (IMCSI). The IMCSI hosted a provincial workshop in 1990, out of which formed a research group who proceeded to conduct the Falls Intervention Trial study[12] and produce the video Head Over Heels.[13] This was the first of a series of studies in the 1990s, conducted primarily at the University of Victoria.

Government initiatives which took place included the formation of the Ministry of Health's Office of Injury Prevention and subsequently, the formation of the BC Injury Research and Prevention Unit (BCIRPU) affiliated with the University of British Columbia (UBC).

Since 2001, a number of significant initiatives have been undertaken in B.C., so that

1997 Practice

Office of Injury Prevention and the Deputy Provincial Health Officer create the BC Injury Research & Prevention Unit (BCIRPU).

Established to reduce the societal and economic burden of injury among all age groups in B.C. through research, surveillance, education and knowledge transfer, public information and the support of evidence-based, effective prevention measures.

1997 Policy

BC Injury Free – The Provincial Injury Prevention Plan for Children and Youth (Ages Birth to 24): A Framework for Action[21]

First B.C. Government injury prevention action plan which was a report of the Ministry of Health Minister's Injury Prevention Advisory Committee. This raised the profile of the burden of injuries in B.C.

1998 Policy

National Framework on Aging[22]

Designed to guide policy development that affects seniors.

1998 Practice

Formation of Adult Injury Management Network (AIMNet) in B.C.

B.C. Summit on Falls Prevention – Hosted by AIMNet[23]

Province-wide coalition of key stakeholders to increase the awareness of adult injury, promote networking and sharing of resources. Summit in 1998 resulted in major resolution to government regarding the need for a major effort to reduce falls among seniors.

today we are seen as leaders in the world in terms of the comprehensive networks and the integration of evidence into health service delivery for seniors. This period was initiated with the establishment of the Senior Advisor on Falls and Injury Prevention position (Dr. Vicky Scott) by the BCIRPU and Ministry of Health. Through Dr. Scott's leadership, the momentum of efforts across the Province has been intensified.

Research initiatives concerning falls and fall-related injuries among seniors in B.C. have increased at a dramatic rate. Of particular note is the work at UBC lead by Dr. Karim Khan, Simon Fraser University lead Dr. Stephen Robinovitch and the national and provincial research conducted under Dr. Scott's leadership.

The release of the 2004 PHO Falls Report[1] was a landmark event for the Province. The report profiled the scope of the problem in B.C., reviewed best practice options for various sectors and provided clear recommendations for a variety of constituents. The Ministry of Health has been working closely with BCIRPU to encourage and support stakeholders to implement many of the recommendations from that report.

The formation of the BC Falls Prevention Coalition (BCFPC) in 2005, a multi-sectoral collaborative, was a direct result of the recommendations of the 2004 PHO Falls Report.[1] The BCFPC is a network representing every Health Authority in B.C. and many of the professional and government agencies and organizations concerned with

1999 Policy

Enhancing Safety & Security for Canadian Seniors: Setting the Stage for Action – Federal/Provincial/Territorial (F/P/T) Ministers Responsible for Seniors – Safety & Security Working Group[24]
The Office for Seniors was the lead. White paper focused on injury, abuse and crime. Built on work of National Framework on Aging.

1999 Policy

Adding Insight to Injury[25]
Overview of research initiatives for prevention of falls among seniors.

1999 Research

The nature of falling among community dwelling seniors[26]
Study designed to develop a causal model for understanding falls and their contributing factors.

2000 Policy

F/P/T Advisory Committee on Population Health - Sub-committee on Public Health – Falls Among Elderly seen as priority.
F/P/T Advisory Committee on Population Health – The B.C. Deputy Provincial Health Officer sat on the sub-committee on Public Health which put forward a number of key priorities for public health across Canada – one of them was falls among the elderly.

2000 Practice

Canadian Falls Meeting
First National meeting organized by Health Canada to determine priorities and directions on seniors' falls. This included the recognition of growing evidence that falls are a public health threat, the leading cause of injury among seniors, the changing demographics in Canada and the need to respond.

seniors' health and falls prevention. The inaugural meeting of this group identified a number of research, policy and practice issues to collaborate on and are preparing for their second major meeting in June of 2006. The terms of reference for the BCFPC can be seen in *Appendix 2*. A list of the BCFPC members appears in *Appendix 3*.

In order to maintain the momentum of injury prevention awareness and investment as a clear priority for policy makers, Health Authorities and the general public, the Ministry of Health continues to fund the BCIRPU for the development of ongoing evidence, prevention activities and public and professional education and awareness.

This includes the:

- Provision of systematic reviews on key injury areas.
- Development and dissemination of injury prevention best practices to Health Authorities and other key stakeholders.
- Support to Health Authorities in the development of strategic plans for injury prevention and effective injury reduction programs such as the falls prevention strategies.
- Partnering with injury prevention stakeholders in analysis and reporting of surveillance data to be used for management, program planning and evaluation purposes.

In addition to supporting BCIRPU, the Ministry of Health supports the BC Injury Prevention Leadership Network (BCIPLN). The BCIPLN is an independent strategic alliance of member organizations

2000 - 2006 Research

SFU Research:
- **Biomechanics of Falls & Hip Fractures.**[27]
- **Floor Stiffness & Risk of Hip Fracture.**[28]

Essential past and ongoing contributions to our provincial evidence-base for falls prevention.

2001 Practice

Office of Injury Prevention and the Office for Seniors jointly created Falls Prevention Specialist position (recruitment of Dr. Vicky Scott)

Jointly identified the need for priority focus and investment on falls prevention and this led to the recruitment of the Seniors Advisor on Falls and Injury Prevention.

2001 Research/Practice

Health Canada and Veterans Affairs Falls Prevention Initiatives

3-year pilot program funded in B.C., Ontario and Atlantic – B.C. selected as substantial experience, activity and collaborative partnerships exist – 9 projects funded in B.C.

2001 Policy

Dare to Agewell – Health Canada. A series of healthy aging workshops – B.C. lead for falls prevention.[29] Addressing falls seen as crucial to achieve healthy aging for seniors.

2001 Policy

An Inventory of Canadian Programs for the Prevention of Falls among Seniors Living in the Community – F/P/T Ministries Responsible for Seniors[30]

A provincial and National inventory of falls prevention programs in existence.

involved in injury prevention to advise and assist one another regarding policies and programs that members' organizations are undertaking (membership organizations of the BCIPLN are listed in Appendix 4). The Chair of the BCIPLN is Dr. Ian Pike, Director, BCIRPU – the former Chair was Dr. Shaun Peck, previous Deputy Provincial Health Officer.

Figure 17 illustrates the integration of the BCIRPU within the BCFPC and the BCIPLN. This demonstrates how the BCIRPU

The BCFPC is a multi-sectoral collaborative of individuals representing regional, provincial and federal organizations who are concerned with the need to reduce falls and fall-related injuries among British Columbian seniors. Through networking, education, research and the implementation of evidence-based prevention, BCFPC members seek to reduce the rate and severity of falls by collaborating to effect change in policy and programming at local, regional and provincial levels.
BCIRPU was established to work collaboratively to reduce the societal and economic burden of injury among all age groups in B.C. through research, surveillance, education and knowledge transfer, public information and the support of evidence-based, effective prevention measures. In particular, BCIRPU provides support to Health Authorities for injury prevention strategic planning and in the development, implementation and evaluation of injury prevention initiatives.
The BCIPLN is an independent strategic alliance of organizations involved in injury prevention to advise and assist one another regarding policies and programs that members' are undertaking. Additionally, the members identify injury prevention priorities consistent with B.C. Core Functions in Public Health for injury prevention and coordinate activities addressing significant injury issues facing any/all age groups in B.C. where evidence supports that progress can be made in injury reduction.

Figure 17. *Falls and Injury Prevention Infrastructure in British Columbia*

2001 Policy

A Best Practices Guide for the Prevention of Falls among Seniors Living in the Community – F/P/T Ministries Responsible for Seniors[31]

A systematic review of best practices for preventing falls among seniors.

2001-2006 Policy/Practice

BCIRPU and Ministry of Health support of Health Authority planning for falls prevention and appointment of Regional Falls Prevention Managers.

Each HA now has an appointed Falls Prevention Manager and have developed, or are developing, Strategic Plans for Region-wide falls prevention.

2001 - 2002 Research

Economic Burden of Unintentional Injury in B.C.[32]

The Smartrisk report provided an economic cost of falls and fall-related injuries in B.C.

Unintentional Fall-related Injury and Deaths: Trends, Patterns & Projections 1987-2012[11]

The Fall-related Injury and deaths report provided data that highlighted the current and projected magnitude of falls among seniors.

2001-2003 Practice

Emergency Department Injury Surveillance System (EDISS) – funded by Ministry of Health and Health Canada[33]

The 3-year pilot surveillance system established in emergency departments across B.C., provided data that provided insight into the causes of fall-related injuries.

is integral to the leadership and infrastructure needed to address falls and fall-related injuries within B.C.

B.C. is now recognized nationally and internationally as a leader in the field of falls prevention among seniors. Recent acknowledgment includes the use of two chapters from the 2004 PHO Falls Report incorporated as white papers for the United States National Falls Prevention Strategy consultation; two eminent B.C. falls prevention specialists, Dr. Vicky Scott (BCIRPU) and Dr. Elaine Gallagher (University of Victoria), as principal authors of the 2005 Public Health Agency of Canada Report on Seniors' Falls in Canada;[3] and the successful presentation of The Evolution of Falls Prevention in B.C. at the Canadian Injury Prevention Conference in Halifax, Nova Scotia, in November 2005. BCIRPU is also represented on the Executive Committee for the development of falls prevention planning for the State of California and on the Expert Review Panel for future falls prevention research planning of the U.S. National Center for Injury Prevention and Control (NCIPC) of the Centers for Disease Control and Prevention (CDC).

A recent partnership between the Ministry of Health, the Public Health Agency of Canada and the BCIRPU has been formed to provide:

- A critique and inventory of international and local practice guidelines for falls prevention.
- In depth interviews with key informants from the BCFPC to identify key factors needed for successful regional planning to reduce falls and injuries among seniors. Currently Dr. Scott's mandate is to provide support to Health Authorities to develop robust regional fall prevention plans that are integrated within existing health service delivery planning. There has been recent significant strategic planning for falls prevention within the Health Authorities, and this will be

2002 Policy

Post International Association of Gerontology International Conference on Falls and the Elderly. Victoria, BC.
The first International Conference held to explore prevention of falls and fall-related injuries among seniors.

Research, Policy and Practice to Reduce Falls in the Elderly[34]
Report from International Conference.

2002 Research

Laying the groundwork for improved knowledge and use of assistive devices among Canadian veterans and seniors[35]
A national study to look at seniors attitudes concerning assistive devices.

2003 Policy

Best Practices for Preventing Falls in Long Term Care Facilities[36]
A literature review of best practices for preventing falls in long term care settings.

2003–2005 Research

"Stepping In" Fall Prevention in Long Term Care[7]

Risk Factors for Injurious Falls among Residents in Long-term Care Facilities[38]
A national study to test a surveillance tool for falls in long term care facilities and explore the impact of a variety of interventions.

Strategies and Actions for Independent Living (SAIL 1).
Falls prevention among clients of home support services[39]

fully outlined and discussed in the blueprint report detailed below.

- A falls prevention symposium in June 2006 to develop practice guidelines for relevant sectors (acute care, long term care, community).
- A blueprint document, Future Directions for Seniors Falls Prevention in British Columbia is due to be released by Fall 2006. The blueprint document will detail the existing infra-structure for falls prevention planning and implementation within the province's Health Authorities and professional organizations, showcase champions and successes, and identify future directions and recommendations from the BCFPC. It will report on progress made in responding to recommendations made in the 2004 PHO Falls Report, and steps to develop provincial falls prevention guidelines.

BCIRPU, through Dr. Scott's leadership, has recently been awarded a $360,000 grant to develop a national curriculum for fall prevention training (CFPC). This will be developed, tested and ready for public roll out by 2008. The CFPC will enhance the capacity of staff within B.C. by providing tools and training to develop and evaluate falls prevention programs.

As part of the Core Functions in Public Health, a Core Program on the Prevention of Unintentional Injuries is being developed in collaboration with Health Authorities in 2007/2008.

2003–2006 Research

UBC Research

- **Risk reduction for women with osteoporosis**[40]
- **Emergency Department Fall Outcomes**[41]
- **Strength & Balance in Reducing Falls**[42]
- **Fall Risk for Women with Visual Impairment**[43]

Essential past and ongoing contributions to our provincial evidence-base for falls prevention.

2004 Policy

Fall Prevention Training for Community Health Workers in British Columbia. The Strategies and Actions for Independent Living (SAIL) Project[44]

Report of SAIL Project to train Community Health Workers as first level assessors of fall risk among their frail clients.

2004-2005 Research

SAIL 2: Randomized Control Trial[45]

A randomized control trial of the SAIL Project.

SAIL 3 in progress for the integration into practice for falls prevention in home support delivery throughout B.C.

2004 Research/Policy

Provincial Health Officer's Special Report Prevention of Falls and Injuries Among the Elderly[1]

Groundbreaking report – used as model internationally.

2004 Practice

Provincial Health Office partnership with the Knowledge Network (KN) to produce a 16 minute video and two Public Service Announcements (PSAs) to be played on the KN television channel.

The video is still aired on a regular basis and to date the PSAs have been shown over 350 times.

It is anticipated this Core Program will include the formation of benchmarks for Health Authorities to aim towards to in order to reduce falls and fall-related injuries among seniors.

B.C. is partnering with the World Health Organization to produce a Global Report on Falls among Older Persons. This technical report will serve to increase awareness and knowledge of the importance of older adult falls and to encourage action to prevent falls and fall-related injuries in all regions of the world. Specifically, it will present falls and fall-related injury data, research knowledge and practice evidence from an international perspective and highlight significant data and knowledge gaps. The report will also provide practical recommendations to countries to improve information and action to reduce falls and fall-related injuries.

The Provincial Health Officer is planning on updating and publishing data that was presented on mortality and hospitalization due to falls and fall-related injuries in the 2004 PHO Falls Report[1].

In spite of the many efforts of governments, universities, Health Authorities and individual organizations, we still have a long way to go. Falls and fall-related injuries still remain as a leading cause of disability and death of British Columbian seniors. The imperative challenge is to build on existing collaborative efforts to continue the downward trend in rates for fall-related deaths and hospitalization. Without this the rapidly aging population will inevitably result in increased disability and death and reduced independence for thousands of seniors over the next few years. The Ministry of Health is supportive of these efforts and continues to see this as a wise investment with major future rewards.

2004-2006 Research

Other Academic Research:

- **Occupational Therapy Falls Assessment[46]**
- **Centre for Hip Health[47]**

Essential past and ongoing contributions to our provincial evidence-base for falls prevention.

2005 Research/Policy

Environmental Scan: Seniors and Veterans Falls Prevention Initiatives in B.C.[2]

An update of the 2001 inventory showing a 9-fold increase in falls prevention initiatives in B.C.

2005 Practice

B.C. Falls Prevention 2-day meeting and formation of the BC Falls Prevention Coalition.

A new coalition of key partners from Health Authorities, universities, provincial organizations and B.C. Government.

2005 Research/Policy

Public Health Agency of Canada: Report on Seniors' Falls in Canada[3]

An overview of epidemiology of falls in Canada and recent initiatives designed to reduce falls and injuries.

2005 Practice

National Injury Prevention & Control Conference – Halifax, Nova Scotia

B.C. led a workshop on the Evolution of Falls in B.C. and presented lessons learned and critical factors for success.

2006 Research

A Systematic Review of Fall Risk Assessment Tools for Older Adults Across Four Settings: Community, Home Support, Long-Term Care and Acute.

Paper submitted for publication in a peer reviewed journal.

Dr. Vicky Scott
Senior Advisor on Falls and Injury Prevention
BC Injury Research & Prevention Unit
Ministry of Health
Population Health & Wellness Division
1-2, 1515 Blanshard Street
Victoria, BC V8W 3C8
Phone: (250) 952-1520
Fax: (250) 952-2072
Vicky.Scott@gov.bc.ca

Centre for Community Child Health Research
L408-4480 Oak Street,
Vancouver, B.C. V6H 3V4
Phone: (604) 875-3776
Fax: (604) 875-3569
injury@cw.bc.ca

Matt Herman
Injury Prevention Manager
Population Health and Wellness Division
Ministry of Health
4-2, 1515 Blanshard Street
Victoria, BC V8W 3C8
Phone: (250) 952-2781
Fax: (250) 952-1570
Matt.Herman@gov.bc.ca

Fraser Health Authority
Kathleen Friesen
Project Director Geriatric Services
c/o 2nd Floor,
10334 152A Street,
Surrey, BC V3R 7P8
Phone: (604) 587-4640
kathleen.friesen@fraserhealth.ca

Interior Health Authority
Mike Vanderbeck
Seniors Falls Prevention Coordinator
3205 31st Avenue,
Vernon, BC V1T 2H2
Phone: (250) 545-8572
seniors@socialplanning.ca

Northern Health Authority
Tom McLeod
Regional Coordinator for Geriatric Projects
3833 Dezell Drive,
Prince George, BC V2M 1A1
Phone: (250) 649-0583
macleod.ent@shaw.ca

Vancouver Coastal Health Authority
Bonnie Lillies
Regional Leader,
Seniors Fall & Injury Prevention
L1-601 West Broadway,
Vancouver, BC V5Z 4C2
Phone: (604) 875-5600
ext. 67210
bonnie.lillies@vch.ca

Vancouver Island Health Authority
Heather Cook
Director, Seniors' Health, Spirituality & End of Life Care
1450 Hillside Avenue,
Victoria, BC V8T 2B7
Phone: (250) 370-5605

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Appendix E: ESTIMATED HOSPITAL COST SELECTION METHODOLOGY

1. Falls are identified by ICD-9 codes of E880 - E888 in years up to 2000/2001, and by ICD-10 codes W00 - W19 in subsequent years.

2. Costing information is derived from Relative Intensity Weightings (RIWs)* from 2001/2002 to 2004/2005 data only, to avoid complications with the switch from ICD-9 to ICD-10. Total dollar values are summed over the full four-year period; averages are per case. Annual costs may be computed as 1/4 of total costs.

3. Only Acute and Rehabilitation Levels of Care are included. Some falls are treated as Day Surgery, but the numbers in seniors are not significant.

4. Costing information includes only seniors - i.e., age 65 or greater.

5. Dollar values are based on the estimated Cost Per Weighted Case for 2004/2005, derived from the work by Stephen Lee, Information Support Consultant, Knowledge, Management and Technology Division, Ministry of Health.

6. Where a single case involves more than one appropriate fall-related code, only the first code is used for costing. No methodology is currently available for apportioning RIWs across diagnostic codes, and the alternative would have been to double-count some cases.

Reduce the rate, frequency and severity of falls among seniors in BC.

The BC Falls Prevention Coalition (BCFPC) is a multisectoral collaborative of individuals representing regional and provincial organizations who are concerned with the need to reduce falls and fall-related injuries among older adults in British Columbia.

Through networking, education, research and the implementation of evidence-based prevention, BCFPC members seek to reduce the rate and severity for falls by collaborating to effect change in policy and programming at local, regional and provincial levels.

Working as a cohesive network, BCFPC has the opportunity to maximize potentials of member's programs, reduce the possibilities of duplication, and exchange resources and information.

- To create a comprehensive, evidence-based and clinically relevant provincial strategy directed towards the reduction of falls and fall-related injuries.
- To identify and engage key stakeholders in fostering an environment that promotes collaboration, coordination and support.
- To act as a central, web-based repository for falls and fall-related injury prevention initiatives, assessment and evaluation tools, and educational materials.
- To offer guidance to and endorse existing and future falls prevention programs/ initiatives in BC.
- To provide a forum for the exchange of best practices evidence for falls and fall injury prevention provincially, nationally and internationally.
- To recommend surveillance strategies and promote the development of standardized definition and measurement tools .
- To develop guidelines for evaluating existing and future measurement tools used in the prevention of falls in order to be of assistance to all BCFPC members.

The BC Falls Prevention Coalition comprises regional health representatives, policy makers, researchers, physicians, managers of provincial and regional falls and injury prevention initiatives, falls prevention project coordinators, geriatric care coordinators, physiotherapists, occupational therapists and nursing consultants.

BC Injury Research & Prevention Unit (CHAIR OF COALITION)	**Vicky Scott, Phd**	*Senior Advisor on Falls and Injury Prevention*
BC Injury Research & Prevention Unit (COALITION SECRETARIAT)	**Fahra Rajabali**	*Researcher*
Ministry of Health	**Eric Young, MD**	*Deputy Provincial Health Officer*
	Tessa Graham	*Executive Director, Healthy Children, Women and Seniors Branch*
	Matt Herman	*Injury Prevention Manager*
	Pauline James	*Nursing Consultant, BC HealthGuide*
	Glenda Burrows	*Manager, Special Project Residential Care*
Fraser Health Authority	**Kathleen Friesen ***	*Project Director Geriatric Services*
	Anne Earthy	*Clinical Nurse Specialist, Gerontology*
	Marcia Carr	*Clinical Nurse Specialist, Acute Geriatrics*
	Susan Wong	*OT, Elder Health Program*
	Lori Hughes	*Advisor, CarePaths and Improvements*
Interior Health Authority	**Mike Vanderbeck ***	*Seniors Falls Prevention Coordinator*
	Maggie Tomich	*Clinical Improvement, Residential/Community Performance Management*
	Lynnda Swan	*Occupational Therapist, Community Care Programs*
Northern Health Authority	**Tom McLeod ***	*Regional Coordinator for Geriatric Projects*
	Denise Foucher	*Injury Prevention Coordinator*
	Barb Herringshaw	*PT*

Vancouver Coastal Health Authority	**Bonnie Lillies ***	*Regional Leader, Seniors Fall & Injury Prevention*
	Ann Dauphinee	*Program Leader, Health Promotion & Nutrition*
	Cheryl Leia	*Physiotherapy Consultant, Home Health*
	Chris Rauscher, MD	*Community Consultant in Geriatric Medicine*
	Linda Boronowski	*Occupational Therapist Consultant, Home Health*
	Sepia Sharma	*Regional Coordinator, Seniors Fall and Injury Prevention*
Vancouver Island Health Authority	**Heather Cook ***	*Director, Seniors' Health, Spirituality & End of Life Care*
	Veronica Doyle	*Project Lead, Falls Prevention Strategy*
	Jill Breker	*Injury Prevention Coordinator – Trauma Program*
BC Injury Research & Prevention Unit	**Ian Pike, PhD**	*Director*
BC Pharmacy Association	**Marnie Mitchell**	*CEO*
BC Ambulance Service	**Ron Yee**	*Project Manager/Quality Improvement Analyst*
University of Northern British Columbia, School of Social Work	**Dawn Hemingway, MSc, MSW**	*Acting Chair and Assistant Professor*
Simon Fraser University – Gerentology	**Duncan Robertson, MD**	*Adjunct Professor in Gerentology*
Simon Fraser University – School of Kinesiology	**Steve Robinovitch, PhD**	*Assistant Professor*
University of Victoria – Associate Director, Centre on Aging/ BC Injury Research & Prevention Unit	**Elaine Gallagher, PhD**	*Professor*
University of British Columbia, Department of Family Practice	**Karim Khan, MD**	*Assistant Professor*
University of British Columbia, Falls Prevention Clinic	**Margie Bell**	*Research Coordinator*
Public Health Agency of Canada, BC/Yukon Regional Office	**Lillian Baaske**	*Program Manager*

BC INJURY PREVENTION LEADERSHIP NETWORK MEMBER ORGANIZATIONS

BC Injury Research and Prevention Unit

BC Falls Prevention Coalition

BC Aboriginal Injury Prevention Steering Committee

BC Sport & Recreation Injury Free Advisory Committee

BC Public Fire & Life Safety Education Advisory Committee

Aboriginal Health Strategic Initiatives, Vancouver Coastal Health Authority

Ministry of Community Services, Stopping the Violence Branch

Ministry of Education, Diversity/ Equity and School Health

Ministry of Health and Ministry of Education, Health Promoting Schools

Ministry of Health, Aboriginal Health

Ministry of Health, Healthy Children & Women Branch

Ministry of Health, Home and Community Care

Ministry of Health, Mental Health and Addictions

Ministry of Public Safety and Solicitor General, Office of the Fire Commissioner

Ministry of Public Safety and Solicitor General, Police Services Division

Ministry of Tourism, Sport and the Arts, Sport Branch

BC Council for Families

BC Drug & Poison Information Centre

BC Institute Against Family Violence

BC Medical Association

BC Safety Council

Canadian Red Cross

Community Health Associates of BC

Deputy Chief Coroner

Fraser Health Authority, Population Health Planning

Health Canada, Healthy Environments & Consumer Safety Branch

Insurance Corporation of BC (ICBC)

Interior Health Authority, Office of the Medical Health Officer

Interior Health Authority, Population Health

Northern Health Authority, Injury Prevention Coordinator

Office of the Provincial Health Officer

Public Health Agency of Canada, BC/Yukon Regional Office

RCMP, E Division

Safe Start

SportMed BC

Trauma Services, Vancouver General Hospital

University of British Columbia, Faculty of Medicine

Vancouver Coastal Health Authority, Office of the Medical Health Officer

Vancouver Island Health Authority, Office of the Medical Health Officer

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Health and Seniors' Information Line
Toll-free in B.C.: **1-800-465-4911**